

CLAIMS

What is claimed is:

1. A method for managing lightweight directory access protocol (LDAP) service, including:  
maintaining a primary LDAP server and a secondary LDAP server;  
mirroring any modification to said primary LDAP server to said secondary LDAP server;  
and  
retrying a call on said secondary LDAP server if said call on said primary LDAP server fails.
2. The method of claim 1, wherein said mirroring includes remote mirroring.
3. The method of claim 2, wherein said remote mirroring includes sending any modification to separate hosts on said primary LDAP server and said secondary LDAP server.
4. The method of claim 1, further including logging any modification to said primary LDAP server or said secondary LDAP server.
5. The method of claim 4, wherein said logging includes logging said modification in a journal.
6. The method of claim 4, wherein said logging includes logging said modification in a scoreboard.

7. The method of claim 1, wherein if said call on said primary LDAP server fails the primary LDAP server is offline.
8. The method of claim 7, further including if said primary LDAP server is offline, resynchronizing said primary LDAP server and said secondary LDAP server when said primary LDAP server is back online
9. The method of claim 1, further including generating an error if a timeout is reached when said call is retried on said secondary LDAP server.
10. The method of claim 1, further including initializing an LDAP session with said primary LDAP server through an application program interface (API).
11. The method of claim 10, further including assigning a handle to said LDAP session.
12. The method of claim 1, wherein said retrying includes retrying said call on said secondary LDAP server without generating an error in response to said primary LDAP server failure.
13. The method of claim 1, wherein said call is an add operation having an entry, and if said entry already exists in the LDAP server to which the call is made, said existing entry is overwritten and a success message is generated.

14. The method of claim 1, wherein said call is a delete operation having an entry, and if said entry does not exist in the LDAP server to which the call is made, a success message is generated.

15. The method of claim 1, wherein said call is a rename operation having a first entry and a second entry, and if said first entry does not exist in the LDAP server to which the call is made, a success message is generated.

16. The method of claim 1, wherein if a signal is received during a call, said call runs to completion before said signal is handled.

17. The method of claim 1, wherein said mirroring includes:

- issuing a write to said primary LDAP server;
- transferring said write into a mirroring software layer where a bit is set in a bitmap for data that is being requested to be written;
- writing said data to said primary LDAP server;
- receiving said data by mirroring software on said secondary LDAP server;
- writing said data on said secondary LDAP server;
- issuing an acknowledgment from said secondary LDAP server to said primary LDAP server; and
- clearing said bit in said bitmap.

18. A system for managing lightweight directory access protocol (LDAP) service, including:

a primary LDAP server having mirroring software;  
a secondary LDAP server having mirroring software; and  
a call retriever coupled to said primary LDAP server and said secondary LDAP server.

19. The system of claim 18, wherein said mirroring software is remote mirroring software.
20. The system of claim 19, wherein said remote mirroring software includes a logging mechanism.
21. The system of claim 20, wherein said logging mechanism includes a journal stored in a memory.
22. The system of claim 20, wherein said logging mechanism includes a scoreboard stored in a memory.
23. The system of claim 18, further including a server resynchronizer coupled to said primary LDAP server and said secondary LDAP server.
24. The system of claim 18, further including an error generator coupled to said call retriever.
25. The system of claim 18, further including an LDAP session initializer coupled to the primary LDAP server.

26. The system of claim 25, further including an LDAP session assigner coupled to said LDAP session initializer.
27. The system of claim 18, wherein said call retriever includes a non-error generating call retriever.
28. The system of claim 18, further including a signal holder coupled to said call retriever.
29. The system of claim 18, wherein said mirroring software further includes:
- a data writer;
  - a bitmap;
  - a data transferor coupled to said data writer and to said bitmap;
  - a data receiver coupled to said data writer;
  - an acknowledgment sender coupled to said data writer;
  - an acknowledgment receiver; and
  - a bitmap clearer coupled to said acknowledgment receiver and to said bitmap.
30. A system for managing lightweight directory access protocol (LDAP) service, including:
- means for maintaining a primary LDAP server and a secondary LDAP server;
  - means for mirroring any modification to said primary LDAP server to said secondary LDAP server; and
  - means for retrying a call on said secondary LDAP server if said call on said primary LDAP server fails.

31. The apparatus of claim 30, wherein said means for mirroring includes means for remote mirroring.

32. The apparatus of claim 31, wherein said means for remote mirroring includes means for sending any modification to separate hosts on said primary LDAP server and said secondary LDAP server.

33. The apparatus of claim 30, further including means for logging any modification to said primary LDAP server or said secondary LDAP server.

34. The apparatus of claim 33, wherein said means for logging includes means for logging said modification in a journal.

35. The apparatus of claim 33, wherein said means for logging includes means for logging said modification in a scoreboard.

36. The apparatus of claim 30, wherein if said call on said primary LDAP server fails the primary LDAP server is offline.

37. The apparatus of claim 36, further including if said primary LDAP server is offline, means for resynchronizing said primary LDAP server and said secondary LDAP server when said primary LDAP server is back online

38. The apparatus of claim 30, further including means for generating an error if a timeout is reached when said call is retried on said secondary LDAP server.

39. The apparatus of claim 30, further including means for initializing an LDAP session with said primary LDAP server through an application program interface (API).

40. The apparatus of claim 39, further including means for assigning a handle to said LDAP session.

41. The apparatus of claim 30, wherein said means for retrying includes means for retrying said call on said secondary LDAP server without generating an error in response to said primary LDAP server failure.

42. The apparatus of claim 30, wherein said call is an add operation having an entry, and if said entry already exists in the LDAP server to which the call is made, said existing entry is overwritten and a success message is generated.

43. The apparatus of claim 30, wherein said call is a delete operation having an entry, and if said entry does not exist in the LDAP server to which the call is made, a success message is generated.

44. The apparatus of claim 30, wherein said call is a rename operation having a first entry and a second entry, and if said first entry does not exist in the LDAP server to which the call is made, a success message is generated.
45. The apparatus of claim 30, further including means for, if a signal is received during a call, running said call to completion before said signal is handled.
46. The apparatus of claim 30, wherein said means for mirroring includes:
- means for issuing a write to said primary LDAP server;
  - means for transferring said write into a mirroring software layer where a bit is set in a bitmap for data that is being requested to be written;
  - means for write said data to said primary LDAP server;
  - means for receiving said data by mirroring software on said secondary LDAP server;
  - means for writing said data on said secondary LDAP server;
  - means for issuing an acknowledgment from said secondary LDAP server to said primary LDAP server; and
  - means for clearing said bit in said bitmap.
47. A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for managing lightweight directory access protocol (LDAP) service, the method including:
- maintaining a primary LDAP server and a secondary LDAP server;



mirroring any modification to said primary LDAP server to said secondary LDAP server;

and

retrying a call on said secondary LDAP server if said call on said primary LDAP server

fails.

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